



U.S. Army Research, Development and Engineering Command



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## Advance Testing Capability (ATC)

DoD M&S Conference

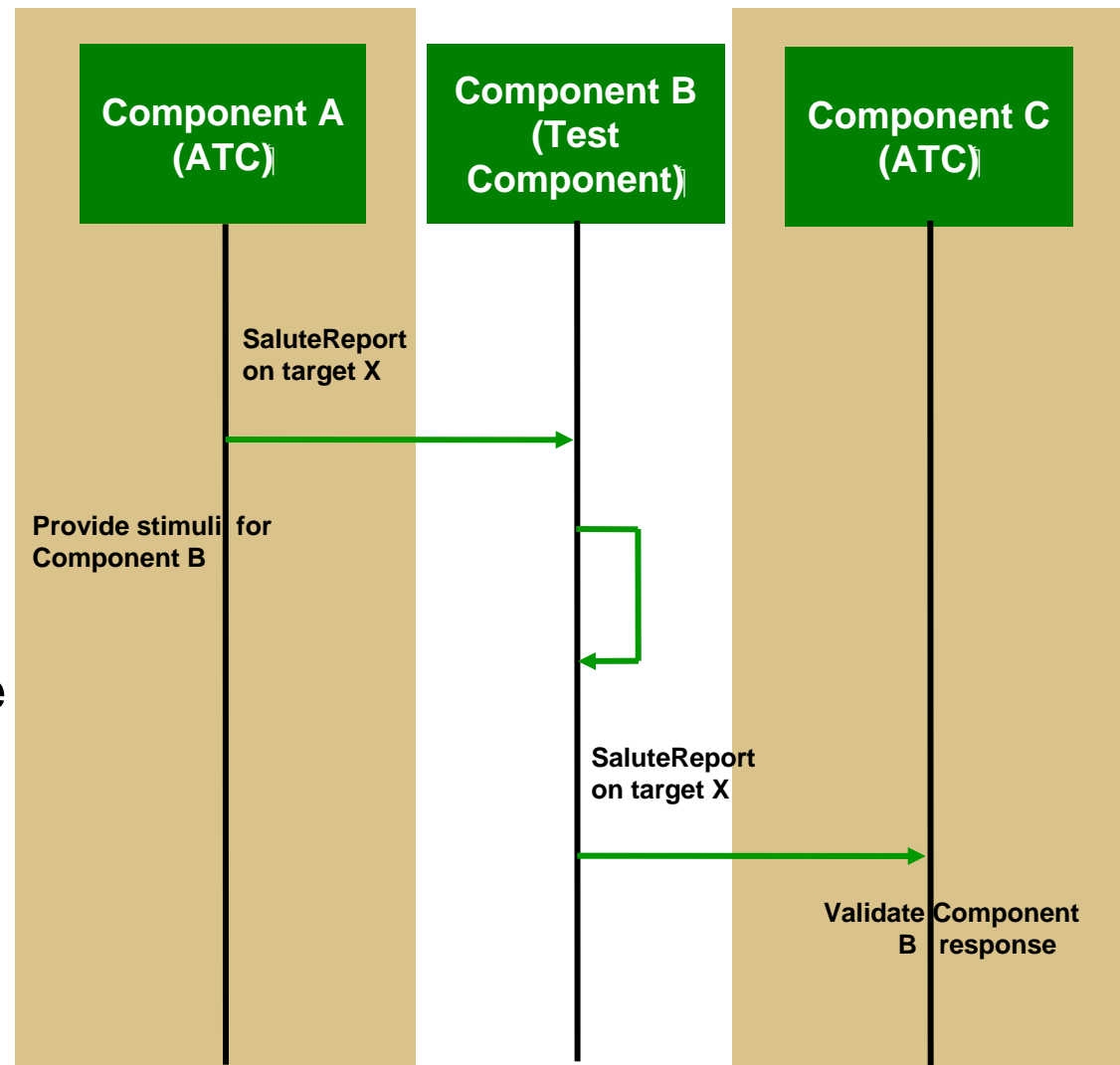
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- Testing a federate in a distributed simulation environment is a 2 step process:
  - Federates are tested individually by their developers
  - The distributed simulation environment is then tested as a whole
- Data dependencies between federates force many groups to skip the individual testing and only test the system as a whole
- Problems in integration arise because federates are not tested for their adherence to system design before being integrated into the whole distributed simulation environment

- Provides users the capability to build, store and execute test for components built on the MATREX tools
- Provides the capability to perform meaningful and repeatable black-box testing on an individual components build on the MATREX tools
- Allows developers to test their individual components without having to bring up the entire federation, making debugging easier and lower the cost of testing
- Allows the Integration and Test team to debug issues during integration
- Can be used as an acceptance test for new and updated components

- Allows the users to create a sequence of actions or events to stimulate the component under test and generate responses
- Validates the responses from the test component
- Generates source code which is then run to execute the test and verify results.



- “OM-Agility”
  - Decouple ATC from the MATREX FOM
    - Allows the use of any Object Model
- MATREX SDR import
  - Ability to import requirements from MATREX SDR and produce an ATC Test Case.
    - Allows test case traceability back to system level requirements
- “Live Interactive Mode”
  - ATC will become a ProtoCore component on the wire
    - Allows pair-wise and federation level testing
    - Allows registering objects, object updates and interactions at run-time.
    - Allows ATC to operate in various simulation architectures, including HLA 1.3, HLA 1516, TENA.

- RDECOM (RDEC's)

- Aviation and Missile Research, Development and Engineering Center (AMRDEC)
- Armament Research, Development and Engineering Center (ARDEC)
- Army Research Laboratory (ARL)
- Communications-Electronics Research, Development and Engineering Center (CERDEC - Belvoir/Monmouth)
- Edgewood Chemical Biological Center (ECBC)
- Natick Soldier Research, Development and Engineering Center (NSRDEC)
- Simulation & Training and Technology Center (STTC)
- Tank and Automotive Research, Development and Engineering Center (TARDEC)

- FCS LSI

# Points of Contact

Name	Title	Phone	Email
<b>Government:</b>			
Tom Hurt	MATREX PM	(703) 806-0995	tom.hurt@us.army.mil
Chris Metevier	MATREX Deputy PM	(407) 384-3865	chris.metevier@us.army.mil
<b>Contractors:</b>			
Gary Smith	Design & Dev Lead	(703) 425-2205 ext. 224	gsmith@d-a-s.com
John Vintilescu	Deputy	(703) 425-2205 ext. 208	jvintilescu@raytheonvtc.com
Lee Sheng	SW Engineer	(703) 425-2205 ext. 210	lsheng@d-a-s.com

MATREX IDE Website: <https://www.matrex.rdecom.army.mil>





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